PUK9

HEALTH ECONOMIC EVALUATION OF PARICALCITOL COMPARED TO NON-SELECTIVE VITAMIN D RECEPTOR ACTIVATOR FOR THE TREATMENT OF SECONDARY HYPERPARATHYROIDISM IN CHRONIC KIDNEY DISEASE PATIENTS: US PERSPECTIVE

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OBJECTIVE: The objective of this study was to determine the health economic impact of paricalcitol versus standard non-selective vitamin D receptor activators (VDRA) treatment for secondary hyperparathyroidism in patients with chronic kidney disease (CKD) in the US. **METHODS:** A Markov process model was developed employing data sources from the published literature, paricalcitol clinical trials, and national population statistics. The comparator was calcitriol, a non-selective VDRA medication. The primary perspective of the study was that of the third party payor. The outcomes in the paricalcitol clinical trials and observational studies (reduction SHPT, reduction proteinuria, complications and mortality) were extrapolated to number of life years gained (LYG) and number of quality-adjusted life-years (QALYs). Clinical and economic outcomes were discounted at 3.5%. **RESULTS:** The base case analysis is based on a 10-years time horizon and is based on a comparison of paricalcitol with a non-selective VDRA, which is started in CKD 3 and continued in CKD 4 and CKD 5. The use of paricalcitol leads to a reduction in medical cost of $2528 and an increase in LYG (0.47 years) and a gain in QALYs (0.43). Consequently the use of paricalcitol result is a dominant strategy, costing less and more effective, from the primary perspective of the US third party payor. The incremental cost-effectiveness ratio remained dominant from the perspective of the society after inclusion of indirect costs. One-way sensitivity analyses and probabilistic sensitivity analyses confirmed the robustness of the model. **CONCLUSION:** The results showed that the favorable clinical benefit of paricalcitol results in positive health economic benefits in CKD Stages 3, 4, & 5. This study suggests that the use of paricalcitol in patients with early CKD may be cost-effective from a third party payor perspective when compared to standard non-selective VDRA medication.

PUK10

ECONOMIC EVALUATION OF POLYCLONAL ANTIBODIES FOR THE MANAGEMENT OF HIGH RISK PATIENTS WITH ACUTE REJECTION IN RENAL TRANSPLANTATION AT THE SOCIAL SECURITY MEXICAN INSTITUTE (IMSS)

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OBJECTIVE: Renal transplantation is recognized as the preferred approach to the management of end-stage renal disease, from both the clinical and economic perspective. In Mexico, approximately 20% of patients show acute rejection in renal transplantation (ARRT) during the first year. The purpose of this study was to estimate the cost-effectiveness of three different antibodies for the management of patients with ARRT at the Social Security Mexican Institute (IMSS). **METHODS:** A one-year decision tree model was performed to simulate costs and health outcomes from an institutional perspective. Effectiveness measure was the rate of survival graft's rescued at the end of the follow-up period. Efficacy data and transition probabilities were taken from published literature. Comparators were horse anti-human thymocyte globulin (10mg/kg); rabbit anti-human thymocyte globulin ATG(1.5mg/kg) and Mono-OKT3(5mg). Resource use was obtained from local experts and direct costs were calculated through case-mix methodology (all unit costs were taken from official databases). The model was calibrated according to international pharmacoeconomics guidelines. One-way and probabilistic sensitivity analyses were performed using Monte Carlo Simulation second-order approach. **RESULTS:** The higher effectiveness was obtained by horse-ATG (87.93%) followed by the rabbit-ATG (84.13%) and OKT3 therapy (82.13%). OKT3 therapy showed the lowest costs per patient (US$91,719) followed by horse-ATG (US$95,875) and rabbit-ATG (US$97,400). The horse-ATG showed the lowest cost per case rescued. ICERs showed that rabbit-ATG is dominated by horse-ATG and OKT3 and the horse-ATG obtained an ICER of US$75,994 vs. OKT3 (baseline). One-way analyses showed that variation in price and effects don't change these results ($p < 0.05$). Probabilistic sensitivity analyses employing acceptability curves and component analyses showed that the horse-ATG therapy was the most cost-effective treatment. **CONCLUSION:** In Mexico, horse-ATG demonstrated to be a cost-effective polyclonal antibody for high risk patients with ARRT. These results should be taken into account by Mexican decision makers in future cost-containment policies.

PUK11

URETEROSCOPY AND SHOCK WAVE LITHOTRIPSY FOR TREATMENT OF URETERAL STONES IN TAIWAN: ECONOMIC EVALUATION

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OBJECTIVE: To assess the direct medical cost of three therapeutic alternatives for ureteral calculi using a decision tree model from the payer perspective. **METHODS:** Taiwan National Health Insurance (NHI) claim databases were used to identify new ureteral stones subjects who initially underwent three treatment modalities: observation, ureteroscopy (URS), and shock wave lithotripsy (SWL) between January 1, 2004-September 30, 2006. A subject identification period spanned from July 1, 2004-June 30, 2006. URS subjects were matched to SWL subjects on the propensity score to avoid possible selection bias. The single treatment cost per patient of each of strategies was obtained from the cumulative sum of various pay procedures according to NHI reimbursement fee schedules. The decision tree model was used to compute the expected total treatment costs per patient. Sensitivity analysis was done to evaluate the effects of various success rates and costs. **RESULTS:** Of 13,594 eligible subjects, there were 3426 (25.2%) with observation, 2738 (20.1%) with URS and 7430 (54.7%) with SWL. A total of 1467 subject pairs were obtained after propensity score matching. Observation was the least costly pathway at all ureteral sites when observation failed. URS was less costly than SWL for stones at mid and distal ureteral locations and a cost difference of T$3535 and T$3072 was noted between the two modalities. Likewise, URS was more costly than SWL for proximal stones by T$2321. One-way sensitivity analysis showed the cost of URS could be increased by more than T$4166 and T$3559, and the success rate could be decreased by 11% and 10% for middle and distal stones before attaining cost equivalence with SWL. **CONCLUSION:** URS was less costly than SWL for treatment of middle and distal ureteral stones. However, the cost of URS would exceed the cost of SWL for the treatment of proximal stones. Observation was the least costly pathway.